BULLETIN OF THE

TAYLOR SOCIETY

AN INTERNATIONAL SOCIETY TO PROMOTE THE SCIENCE
AND THE ART OF ADMINISTRATION AND OF MANAGEMENT

Scientific Marketing

A Professional Summer in Europe

Unemployment Insurance

Job Analysis

Engineering Societies Building
29 W. Thirty-Ninth St.
New York

AUGUST, 1927 VOL. XII, NO. 4

Objects of the Taylor Society Incorporated

The objects of this Society are, through research, discussion, publication and other appropriate means:

1. To secure—for the common benefit of the community, the worker, the manager and the employer—understanding and intelligent direction of the principles of administration and management which govern organized effort for accomplishing industrial and other social purposes.

2. To secure the gradual elimination of unnecessary effort and of unduly burdensome toil in the accomplishment of the work of the world.

3. To promote the scientific study and teaching of the principles governing organized effort, and of the mechanisms of their adaptation and application under varying and changing conditions.

4. To promote general recognition of the fact that the evaluation and application of these principles and mechanisms are the mutual concern of the community, the worker, the manager and the employer.

5. To inspire in labor, manager and employer a constant adherence to the highest ethical conception of their individual and collective responsibility.

Membership

The membership of the Society comprises Members, Junior Members, Honorary Members, Life Members, Firm Members, Contributing Members and Student Associates. Application for membership should be made on a regular form which may be secured from the Society. New members may be elected directly to the grades marked*.

1. **Member*: An individual interested in the development of the science and the art of management as engineer, executive, operative, scientist, investigator or teacher. Minimum age 28. Initiation Fee, $15. Annual dues including subscription to the Bulletin, $20.

2. **Junior Member*: A younger member. A Junior Member may become a Member without payment of additional initiation fee at 28 years of age and must change to Member at 30 years. Initiation Fee, $5. Annual dues including subscription to the Bulletin, $10.

   For any of the above grades a person engaged in educational work, state service, government service or the service of any other non-commercial enterprise of an eleemosynary nature shall pay one-half the initiation fee and one-half the annual dues of the grade to which elected.

3. *Honorary Member*: A Fellow, over 50 years of age, who has rendered exceptionally distinguished service in the advancement of the science and the art of management.

4. **Life Member*: Any Fellow or Member who has prepaid all dues by the payment of $500.

5. **Firm Member*: A firm or organization interested in the advancement of the science and the art of management which desires to make the service of the Society available to members of its organization. A firm member designates two representatives (who may be changed from time to time at the organization's discretion) who have all the rights and privileges of membership except the right to vote and to hold office. Annual dues, including two subscriptions to the Bulletin, $40.

6. **Contributing Member*: Any individual, firm or organization desiring to promote the work of the Society by an annual contribution of $100 or more. A contributing member has all the privileges of personal or firm membership, as the case may be, including one subscription to the Bulletin for each $20 contributed.

7. **Student Associate*: A regularly enrolled student of management in any school of engineering, business administration, commerce or arts, of collegiate rank, or a graduate of such institution who has applied for membership not later than one year after graduation, elected upon recommendation of the instructor in charge of management courses. A Student Associate may become a Junior Member, without payment of initiation fee, any time after graduation and must become a Junior Member at the age of 25. Annual dues including subscription to the Bulletin, $3.

All dues are payable in advance, either annually or in semi-annual installments. The fiscal year is November 1 to October 31. Members elected other than at the beginning of the fiscal year are charged pro rata (quarterly) for the first year.

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Management Week
October 24-29, 1927

The active interest and co-operation of all members of the Taylor Society is needed for the successful completion of this year's Management Week plans. The general subject under consideration will be "Management's Part in Maintaining Business Prosperity." It is urged that members communicate with Mr. Ray M. Hudson, Secretary of the National Management Week Committee, at the Department of Commerce, Washington, D. C., for further information on the status of Management Week plans in their communities. Many local organizations have already made tentative plans for meetings and speakers but further suggestions and assistance in working out plans are needed.

Comment

ARRANGEMENTS for the annual meeting, December 8 to 10, are nearly completed and give promise of one of the most fruitful meetings the Society has ever held. The authors and titles of papers will be announced in the October issue, when the list will be complete. General features of the program are as follows:

A "case" session will present an example of the consistent, complete and successful application of the principles of scientific management in an enterprise of seven plants, involving both horizontal and vertical integration, in which the scientific management approach and technique govern all along the line—in the management of the plants as a group and in the management of each plant; in policy determination, marketing and production.

Several papers will consider the management implications of the problem of "unused facilities," from the points of view both of the investors of capital and of the investors of labor.

A session will be devoted to the present status and methods of time study, and inquiry will be made into the practicability of formulation of a code of time-study procedure.

Another session will present the results of a questionnaire concerning present methods of sales management, similar to the famous questionnaire reported at the December, 1920, meeting of the Society.

Members interested in research methods will be offered a paper on the technique of making industrial surveys and reconnaissances; and those interested in psychology a significant paper in this field.

Arrangements are being made also for an old fashioned get-together dinner—the kind we used to have at Keene's Chop House—at which old acquaintances may be renewed and new ones made, and at which there will be a program suitable for such an occasion.

On the day preceding the first session of the meeting of the Taylor Society will be held the customary meeting of teachers of management to discuss phases of their professional problem.

Members should not neglect the annual business meeting to be held by constitutional requirement, at 4 P. M., Thursday, December 8.

Scientific Marketing Management

A Review of Percival White's New Book[1]

By **STUART D. COWAN**
Cowan, Dempsey & Dengler, Inc., New York

TODAY we are living in a wholly new era in American business. The fact that Harper & Brothers publish a book of this type on the application of certain Taylor principles to marketing is one item of evidence.

Another is the space devoted to marketing in the editorial columns of business papers and even in some magazines and newspapers of general circulation.

The serious attention certain progressive investment bankers are giving to all phases of marketing, both before and after underwriting an issue, is most significant.

Finally, the keen interest in their customers' merchandising, selling and advertising operations on the part of a few outstanding commercial bankers, and their sympathetic aid in offering constructive suggestions are convincing proof that the new era is here.

For example, the studies made and the assistance to industry rendered by Fred W. Shibley, Vice-President of Bankers Trust Company, New York, one of our foremost industrial bankers, demonstrate that men once considered the "Bourbons" of the business world are now applying Taylor principles to marketing and thus to general management.

Perhaps the simplest way to provide a setting for Percival White's book is to outline the scope of Mr. Shibley's work and mention some of the results it is helping to produce. Not only is this information intrinsically interesting and stimulating but, what is more important, it points to a trend. It shows how men who inaugurate and operate scientific marketing methods inevitably face the need for scientific organization, the special subject of this notable book.

One of the first problems Mr. Shibley tackled, during the depression of 1921, was the reorganization of a concern manufacturing chewing gum, a business he knew nothing about. It was greatly over expanded, out of balance in every particular.

The methods applied to its rehabilitation are especially interesting.

First, the good, active assets were separated from the surplus and questionable assets. Then came the question, "Can the good assets be utilized in an operation without loss?" This involved study of what amounts of the various products could be sold and at what prices. That required market analysis. And the analysis, which had to be performed in a short space of time, consisted largely of "boiling down" the knowledge of the salesmen, appraising their statements, and judging their personalities.

In a comparatively short time, Mr. Shibley had a total quota for the United States, a quota for each territory both in total and by products, and a quota for each month. So conservative were these quotas that they were used as operating forecasts, a rock foundation on which to build.

We might mention, in passing, that this was his first job of market analysis and sales forecasting. He admits in all frankness that before facing this emergency he had been more or less of a "Bourbon" himself, had always regarded scientific management principles as a minor matter and believed that all a banker need look for was a good product and a good man at the head of a business.

Having before him an itemized sales forecast for this gum business, he then undertook to harmonize working capital, plant requirements and personnel. The sales dollar was broken down. The dollar of expense must fit the dollar of income. The first sales dollar showed $1.15 for costs against an income of $1.00. So they started a process of squeezing and paring. Finally, this balancing operation, their most difficult task, was completed. Meanwhile they had found the old management unsympathetic and had sought out a new president who would operate the plan.

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[1] Percival White, "Scientific Marketing Management," (Harper & Brothers, 1927).

At the end of the first year a small profit had been earned; sales had come within a few thousand dollars of the forecast.

The second year, sales increased satisfactorily. It was seen that each dollar of increased sales bore only the costs of material, labor and variable burden—that the profit on each added dollar of sales was considerable.

In a short time the business was handed back to its stockholders without debt to any bank. It is still operating on the simple plan adopted six years ago. Profits are steadily mounting up. Its common stock is constantly appreciating and pays substantial dividends.

The bankers who had watched the experiment with grave doubts were surprised and delighted. Here, so it seemed to them, was a new force, a new source of industrial power, ready for them to use.

Encouraged by his first test of market analysis, sales forecasting, budgeting-based-on-forecast and management control, Mr. Shibley had intensified his activities. He began to act as a clearing house, to gather facts about and personally study the new developments in many industries, in large companies and small ones, cases where only one phase of scientific marketing was operating and cases where several phases were combined in a comprehensive plan. All the time he was busily engaged in analyzing the problems of the customers of Bankers Trust Company, helping them to understand and meet the new conditions and new competitive problems that, unknown to some of them, had become a reality.

In the past six years he has gone deeply into many businesses, cotton, silk, hosiery, floor coverings, paper, printing and publishing, tires and rubber products, automobiles and trucks, steel and steel products, food products, and so on.

In a house making silk piece goods he found a man who says, "Style trends are no longer a problem with us. We have found a simple way to forecast our business. We now control our production and sales so they come within ten per cent of our forecasts."

A comparatively small motor company, acting on his recommendations, turned a deficit of one year into a profit exceeding $2,000,000 the following year; the chief factor in this unusual and rather fortuitous result was that sales came within twenty cars of the forecast.

A large food products concern reports a saving of $1,250,000 a year in one department, due to budgetary control, and a saving of $250,000 a year in another department. Yet this organization has just commenced the application of "The New Thought in Industry"[2] as Mr. Shibley describes his work and the work of others who are moving in the same direction.

A writing paper company making a line in which style is a prominent factor has recently reorganized its marketing under his direction. Market analysis showed that sales to jobbers were not only unprofitable but were interfering with good business. Many other significant facts came to light. Then followed a definite appraisal of the amount of available business by territories—new territories having been built up of individual counties which had likewise been appraised or evaluated. New quotas were set. New salesmen were hired and trained. Much needed field supervision was provided. Salary-and-bonus plans replaced the commission system. Merchandise planning was separated from sales operating. And in less than six months sales to retailers more than made up for the elimination of unprofitable jobbing sales. A comprehensive marketing system, with the forecast governing the budget, which should double this company's earnings in a few years! Incidentally when Mr. Shibley was satisfied that the former sales manager had talent for merchandising work, he suggested that the company permit this individual to specialize on style problems and metropolitan developments and that a younger sales manager come in who would work the new plan with a sure touch and marked aggressiveness—a functional type of executive.

Today Mr. Shibley is directing or studying many other programs now well under way, each different in character and treatment, but all alike in that basic Taylor principles are being applied.

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[2] "The New Thought in Industry," an address by Fred W. Shibley, Vice-President, Bankers Trust Co., New York, presented at a dinner attended by the principal officers of the clients of Cowan, Dempsey & Dengler, Inc., at the Harvard Club, New York, February 3, 1927.

Do not infer that these developments go forward smoothly without striking snags and causing many disappointments. Much "grief" is encountered at every turn. In fact, such efforts call for a rare combination of imaginative foresight, careful analysis, flexibility in meeting unforeseen resistance and, above all, courage to persevere once a sound plan has been adopted.

From all of this work and study, Mr. Shibley has drawn these basic conclusions:

1. That a budget system is of small value unless based on an accurate forecast of sales; a total forecast should be within five per cent; a forecast for an individual line should be within ten per cent;

2. That market analysis, the basis of the sales forecast, is unsound when too much weight is given to what has happened and too little weight to new trends that show what probably will occur in the future;

3. That the *final success* of any marketing program depends on finding men who are fitted for their places in a soundly planned marketing organization; that only a reasonable amount of time can be given doubtful men to make good; that those who do not qualify must step aside promptly either into different jobs in the organization or into another line where the requirements are less definite; that this policy is usually a help to the man as well as the company.

Those views, briefly stated and with many vital points necessarily omitted, represent the new school of industrial bankers.

Note particularly that no "cure-all" is countenanced by them. They see marketing management as a philosophy, a viewpoint, a system, if you please, that is *comprehensive in scope* and *flexible in detail.*

They are always alert to discover which phase of a situation is the turning point or critical factor. Yet they are always governed by basic principles.

Just as bankers have learned from operating executives, so operating men are learning from them. A steady flow of ideas back and forth is seen. In fact, there has grown up a sort of Freemasonry among men doing pioneer work in marketing management.

A few men of this type who have been feeling their way into scientific marketing management, sharpening their perception and truing up their judgment by one test after another, will read Mr. White's comprehensive volume, "Scientific Marketing Management," with keen interest and not a little practical benefit. To some organizations they can apply at once a gradual process of more definite functionalization, the main theme of this book.

Men lacking a forward-thinking type of mind, men devoid of a scientific or objective viewpoint, and all that large group of men impatient for quick results will not gain much from this book. They may read it with some profit, acquiring perhaps a more open-minded outlook, but we join the author in warning them to go slowly in applying these principles to their businesses.

Recently we gave a number of copies of "Scientific Marketing Management" to our friends. Invariably questions like these are asked, "Who is Percival White? What is his training and experience? Is his viewpoint sound?"[8]

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[8] Percival White was born in New England in 1887 and obtained his early education by shop work and extensive travel. He graduated from Oahu College, Honolulu, (1904) and took a postgraduate course there; graduated from Harvard in 1909, later receiving a Master's degree. He also did engineering work at the Lawrence Scientific School.

Working as a newspaper reporter he specialized on scientific assignments and his interest in problems of organization was aroused by reporting the installation of the Taylor system at Watertown Arsenal. White put these principles into practice for himself and gained experience in problems of design, engineering, testing, manufacturing and marketing as an automobile manufacturer in England. The war ended his business there, but he continued in the same line, with the addition of retail sales and service, in the United States. After America's entry into the war, White was appointed Automobile Expert to the War Department. He conducted testing and research work at the Rock Island Arsenal and again was able to observe large scale operation of the Taylor system at high pressure.

He later assisted in organizing the United States Gas Defense Plant, Long Island City, New York, which eventually employed 13,000 persons, and was master mechanic and manager of two departments. After the war he was made Director of Development of the Lynite Laboratories (later taken over by the Aluminum Company of America) and did pioneer work in marketing research in this country and in England and Germany.

White is now an independent marketing counsellor and has studied the problems of many companies, including the Ford Motor Company, the General Motors Corporation, Burroughs Adding Machine Company, and the Warner Brothers Company.

He is president of the Market Research Council, and a member of the Business Research Association of Great Britain, and also of leading engineering societies here and abroad. Among White's books are "Market Analysis," (McGraw-Hill Book Company, Inc., 1921), "Chain Stores" (with Walter S. Hayward, McGraw-Hill Book Company, Inc., 1922), "Business Management" (Henry Holt and Company, 1926), "Scientific Marketing Management," (Harper & Brothers, 1927), and "Advertising Research" (D. Appleton & Company, 1927).

He never could have written as he has were it not for the fact that he has lived his subject, both in personally conducted enterprises and as a manager and consultant in various important businesses.

Vivid personal experiences, encounters with the "Bourbons," probably account for a certain tone of positiveness that appears here and there. While this may not be quite in harmony with the accepted spirit of a scientific work it is not without its advantages.

Only two negative comments may be made. Both are minor matters; one, the fact that perhaps too much emphasis has been placed on the ethical-economic viewpoint; the other, the extreme condensation which in places might be mistaken for superficiality.

The "old army" scheme of trying to "put it over" is gradually being discredited. The new policy of "service to the consumer" is undoubtedly growing. This about-face will be stimulated, it seems, by the results of brilliant merchandising—merchandising from the consumer viewpoint. Note the success of General Motors which practises this policy and the dismal but well-deserved slump of the Ford Motor Company. Such examples, rather than precepts appealing to the abstract idealism in which men engaged in competitive strife cannot indulge, will stir men to action. Robert Updegraff dramatizes this theme vividly in "Captains in Conflict."

Mr. White was forced to condense his thoughts in order to keep his text within the limits of a book written largely for executives, and to preserve his free-moving, attractive style. However, at times he devotes only one paragraph to a topic that might well run several pages or an entire chapter. Here and there he scarcely touches on the major variations of a given situation. While such condensation may be somewhat disappointing to the student who wants to follow the implications of the author's thought, it may heighten the interest of bankers, general managers and operating executives who are chiefly interested in the broader aspects of the marketing organization problem.

If we could choose only three books on business management, "Scientific Marketing Management" would be one of them. Our heartiest congratulations to the publisher, Mr. Ordway Tead of Harper & Brothers, and to the author. Inasmuch as the reviewer believes that this fundamental contribution to marketing management cannot be covered adequately without a synopsis of the book, such a synopsis follows.

Synopsis

The primary purpose of "Scientific Marketing Management" is to set forth the principles of modern scientific marketing, as far as it is possible to expound them at this stage of their development. A secondary purpose is to describe a *system* of marketing for the guidance of individual companies. The undertaking was inspired by Frederick W. Taylor's books on scientific management.

The book is divided into six parts. In Part One, the wastes of marketing are discussed. Part Two is a very general statement of the present situation in marketing—viewed from the standpoint of the public and also of the enterpriser. Part Three is an objective study of modern marketing practice, as it is today, and covers the organization and control of marketing activities in the typical American company. The situation having now been reviewed objectively, the principles of a scientific system which grow out of such a situation are defined, in Part Four. Here, also, the organization and control of the system of scientific marketing are described in detail. Part Five relates to the departmentization of marketing activities. Part Six treats of the methods of reorganization and *hints* as to the installation of scientific marketing.

The Wastes of Marketing. So far as the individual company is concerned, marketing wastes can be eliminated or reduced by *proper organization.* This does not imply the necessity, nor the desirability, of eradicating "personality" from the marketing process; in fact, this will probably always play a dominant part. But the same principles of organization which have reduced production costs can be applied to marketing, resulting in *even greater advantages.*

A suitable program of marketing reform, even if applied only to individual companies, by educational methods, and having to do only with their own problems of management, would:

1. Make the consumer's lot easier and less worrisome,
2. Reduce the cost of living,
3. Increase the profits of the enterpriser,
4. Reduce the speculative risks of business,

5. Conserve enough wealth through the elimination of marketing wastes to offset all taxes.

Marketing and the Public. The thesis is that the beginning and the end of all marketing problems is the consumer.

The management's problem of production, wherein only a *single personal relationship is* concerned, is far simpler than its problem of marketing, where, at the minimum, there are three relationships.

Mass production, although it has brought with it lowered costs of manufacture, has brought with it over-production on an unprecedented scale. This, in turn, has made it imperative for the producer to find *new outlets,* or to make them.

The enterpriser, when he deals with men in the street as prospective employes, is in a position to impose his will upon them; but, in dealing with them as buyers of goods, he is bound, under the present conditions of commerce in the United States, to accept their will or to suffer loss. With a stabilization of industrial relations, with increasing consumption in markets of every description, and with the surfeiting of consumers as a result of prosperity and over-production, the problem of winning and keeping the customer's trade is becoming the most difficult of any which the American enterpriser has to face.

Marketing and the Enterpriser. Twenty-odd years ago, Frederick W. Taylor stated that industry lay at the mercy of the workman. Today, industry lies at the mercy of the salesman. The high cost of distribution is largely attributable to super-salesmanship. The consumer pays for "distribution," whether there is any actual distribution or not.

Scientific marketing adopts this axiom: "I will sell a man what he needs and ought to have, and I will not sell him anything else, even though he might be induced to buy."

The Ford Motor Company offers a good example of what happens when emphasis is laid on production rather than on marketing, and of how high-handed methods of distribution fail in the end to move a product which has become hopelessly out of date.

The Marketing Organization of the Typical Company: Complication in marketing activities of all kinds is inevitable, applying equally to marketing conditions and to the marketing organization. But it is not necessary to continue, as at present, under conditions which involve lack of uniformity of practice and absence of standards of measurement, and other standards.

Examples of unprogressiveness in marketing would lead the observer to certain conclusions:

In the first place, opposition to functionalized marketing is founded on no true understanding of marketing principles.

Second, there is no uniformity of practice and standards among different companies. This follows naturally from the belief that each business enterprise is different.

Third, where the need is sufficiently imperative, functionalization occurs automatically, but there is no consciously and intelligently directed attempt to build up a scientific system of marketing as there has been in production.

Fourth, complications are growing. The result is confusion and added costs.

Fifth, the problem of decentralization offers both the greatest incentive to functionalization and the greatest obstacle.

Lastly, there is the dominance of the personal factor in marketing activities. This often results in the failure of the management to be acquainted with the markets which it is serving.

Marketing Management: Scientific management of any kind is made possible only by *organization and control.*

Organization alone is not sufficient to secure scientific management. It must be accompanied by some mechanism of control, and the two essential elements must be inter-related in such fashion that the best results are obtained.

The enterpriser's conception of marketing, just as the economist's, is not the one best fitted to the needs of the consumer. Accordingly, since marketing is becoming a more and more complex process, specially trained men, conversant with all details of marketing practice, must work out a comprehensive system.

Divested of numerous adjuncts (which are, however, important elements of its structure), modern marketing tends to become a concerted endeavor to *anticipate* mankind's wants by the widest possible margin. The public is supplied with possessions, acquisitions and appurtenances far in advance of its need for them. It even accepts and pays for certain utilities which prove, in the end, not to be utilities at all. The situation is uneconomic and unsound, at once precarious to the public, to the enterpriser and to the country. It is, perhaps, an underlying cause of the business cycle.

The principles of Scientific Marketing: The primary consideration in formulating any program of marketing reform is the profit which the enterpriser may expect through the perfection of his marketing practices; high profits and low marketing costs may, and frequently should, go together.

How is marketing to be reduced to a scientific basis? Some of the outstanding principles are as follows:

1. Objectivity of Demand. Marketing should center around the needs of the consumer.
2. Division of Labor. The principle of the division of labor should be applied to marketing through functionalization and specialization. Sales and advertising are no longer supreme.
3. Analysis. The marketing problem should be carefully analyzed by means of a research organization. This analysis should be the basis of all plans.
4. Planning. Just as in modern production management, there is a special department organized for planning in reasonable detail marketing processes and operations.
5. Training. All members of the marketing division of the business should be trained in the best methods. Such training constitutes one of the bases of scientific marketing management.
6. Control. A careful system of supervision, discipline and remuneration must be worked out if scientific management is to prove successful.
7. Co-ordination and Co-operation. Although the principle of the division of labor is carried out on a functional basis, provision must be made for co-ordination of these separate functions. This co-ordination must be conducted in a co-operative fashion.
8. The Ethical Concept. That marketing practice which is most ethical—best for all concerned—is the one which will bring success, in the largest and most enduring sense.

The Organization of Scientific Marketing. On the basis of the foregoing principles it is necessary to erect a working organization or system. This is done by separating marketing activities into *logical* functions, and then by departmentizing the personnel *in accordance* with these functions.

Since research is the pioneer step in marketing, the Market Research Department deserves first consideration. The findings of the Research Department are handed on to the Marketing Planning Department, where they are built into a constructive and dynamic program. Before plans can be put into effect, trained personnel must be provided. This presupposes a properly functioning Marketing Training Department.

The instructions of the Marketing Planning Department are delivered through the Marketing Manager to the Sales Department and the Advertising Department, both of which have as their duties the carrying out of these plans and the reporting back to the Planning Department or to the Marketing Manager the progress which has been made. The next function is that discharged by the Service Department, which exists in order to represent the interests of the consumer, both before and after the sale. The necessity of supplying suitable machinery to take care of marketing costs will make it desirable to have a Marketing Accounting Department.

The Control of Scientific Marketing. The Marketing Manager is the chief executive of the Marketing Division. It is he who is, in the final analysis, responsible for the success of scientific marketing; he forms the pivot of the system. His duties are chiefly those of a line officer, whose duty it is to direct, co-ordinate, maintain and measure.

The Marketing Division should be run on a basis of promoting men as rapidly as possible. The promotional possibilities of every job should be outlined or charted.

It requires unusual executive ability to maintain a constant high level of accomplishment. Once the organization has become established the greatest problem is that of finding and keeping a man capable of doing this.

Departmentization of Marketing Activities. From this point on, the book describes the details of the system, and their specific applications, from both a theoretical and an actual viewpoint. How scientific principles should be applied, and how they are being applied, are described. Since a basic assumption of this book is the idea of functionalization, the chapters have been made to conform to certain important functions into which marketing activities can be divided.

Market Research. The purpose of market research is to give a picture of the entire marketing situation.

Market research may be divided into three subfunctions: first, the gathering of data; second, their organization; and third, their preservation in available form for use by the planning and other departments.

Marketing Planning. The object of marketing planning is to base active, dynamic plans upon these data. Thus, the duty of planning is of the highest strategic importance.

One of the most important planning functions is that of co-ordinating the work of all the other departments in the division. The Planning Department is the brain which directs, but it does so only after the information from all sources has been received.

It is important to emphasize that the Planning Department exercises control in no way whatsoever.

Marketing Training. The term training, as used here, includes, broadly, the actual employment of those best fitted for marketing work, their training, both preliminary to and after they are on the job. Finally, in collaboration with the sales and planning activities, training helps maintain the morale of the entire marketing organization at top pitch. Ordinarily, also, individual records are kept to be used as bases for remuneration or promotion.

Selling. The purpose of scientific marketing has not been achieved until the selling function has been isolated. Training, research and planning are for the most part staff activities designed to serve the major line function of selling.

Advertising. Like selling, advertising is a line function. While, in its essence it is merely a form of selling, or an adjunct thereto, it becomes a special department because of its individual technique, which requires training and experience of a highly special character.

Service. The guiding function of the Service Department is the physical embodiment of the principle that the public must be given a fair deal, and that it must be satisfied.

Credit. There is a constantly growing feeling that credit and sales are so closely connected that something should be done to make co-ordination more complete. Credit information, under a scientific system of marketing, is normally gathered by the field force of the Market Research Department.

Marketing Accounting. Production has been conducted on a cost basis for years. The application of cost accounting to marketing, however, has always been lacking or incomplete, partly because of the difficulty of getting cost data, and partly beacuse the great pressure towards making sales prevented it. Under a system of functionalized marketing, cost accounting is an essential feature.

It is sometimes advisable to unite the Accounting Department with the Market Research Department.

Departmentization of the Secondary Marketing Functions. The marketing functions described in the previous chapters are *primary* functions. That is, they are of universal application. It is usually found that individual companies will require specialized treatment, and it may then be that certain of their special functions (such as traffic) will also call for departmentization.

Installing Scientific Marketing. The system of scientific marketing outlined in the previous chapters, under ordinary conditions, cannot be put into effect without delay. A process of reorganization will be required, which will gradually do away with outworn practice and substitute the new methods for it.

Successful results cannot be expected unless the general type of marketing organization is carefully chosen in advance, unless ample funds are provided for making the change, and unless the work is carried on in such a way and in such sequence that the marketing operations of the company during the process of reorganization are not impaired.

Quick results from reorganization of marketing on a scientific basis must not be expected.

WITH conditions as they promise to be for some years to come it is not expected that marketing will prove reducible to the almost machine-like system which characterizes manufacturing. Marketing has always been dependent to a great extent on emotion, and emotion cannot be dealt with effectively by any cut-and-dried system yet developed. Advertising indicates, however, that some possibilities lie open in this direction and that a system which is in effect almost entirely mechanical is capable of dealing with emotions and stimulating them effectively. (Percival White, "Scientific Marketing Management," p. 15).

A Professional Summer in Europe

Observations on Meetings of Associations Concerned with Scientific Management and Human Relations in Industry

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JUNE 13 to July 20—not much time to get in touch with "human element" work in Europe! There are so many ways in which one might spend this time; visiting plants, calling on leaders, attending meetings. We decided to do a little of all three. Impossible to make a thorough study, it would be possible to get the high spots—to learn much, to sense more.

We landed at Boulogne and had an hour or two of Paris at sunset, and that beauty that is its real lure, then off to a meeting of the Schweizer Verband Volksdienst, at the Luziensteig. The Volksdienst is a Swiss service group, now in its seventh year of work in the industries. It provides canteens and rest rooms and social service to forty-five factories and seven soldier groups. Once a year it gathers the heads of its canteens for a week's conference, headed by Mrs. Zueblin-Spiller, who visited and spoke in the United States last winter.

The meeting place itself is interesting—a soldier's training school barracks, used between two courses for this welfare group, because it also has done military service. It gives the members of the group a real thrill to use the equipment of their country, and to enjoy as do the young men in training, one of the beauty spots of the country. The whole conference is a triumph of careful planning. The use of every room is scheduled before the conferences begin, and every member attending is routed from the time she leaves her post till she returns. Lecture and recreation programs are complete. Even meals are planned in detail —menus, amount of food needed, sources of supply. All food, except flour, milk, sugar and a few such staples, is contributed, according to quota, by the different canteens, who thus participate as well as by sending their directors. It is so interesting to read the menus posted on the porch each morning, and to see after each item the name of the donor canteen. Needless to say, the fare is delicious.

The lecturers are mostly drawn from the directors of the work, or from the Swiss academic and industrial groups who co-operate, though this year several of the speakers were from outside the country, one from France and the others from the United States. The subjects are hygiene, management, welfare work and other topics that directly affect plant technic. There are also lectures on economics, as essential to right thinking. There are talks on the arrangement of flowers, and demonstrations and lessons on handicrafts that may be taught women workers for their leisure time. And there are gymnastics and singing and mountain climbing.

But this gives no adequate picture of the conference—the greeting of the guests from a distance with a welcome song; the breakfast table decorations of Alpine wild flowers that some one has gotten up early and climbed miles to get; the group of eager listeners who have hurried through the co-operative housework to gather at morning, afternoon and sometimes evening lectures, often held out under the trees; the serenades to the big golden moon as it comes up over the mountains. All these result in a feeling not only of thinking and working together, but of living and enjoying together that, at the end of a week, sends one off, perhaps to a distant or isolated job, with the feeling of belonging to a group, of being a part of a world-wide undertaking. One learns so much by demonstration—how to run a conference by careful planning, without a hitch, yet with no sign of the mechanism; the benefits of a balanced ration, not only of food and the delicious non-alcoholic "most" that the canteens specialize in, but of a balanced life; plenty of work, done efficiently as well as plenty of leisure used satisfactorily.

What is there for the visitor from the United States to take home? Besides the fact finding, there is the courage to dare to be natural, to plan for people what they really like as well as what one feels they need, to face the superficial criticism of those who consider it high-brow to make fun of all conferences that aim to teach values as well as technic; and the taking part in and profit secured by contacts with people who preach and practise service, and who dare to meet to study those things from which power to serve comes.

From here we went on to Baveno, for the first Summer School and the Council Meeting of the I. R. I. This group, the "International Association for the Study and Improvement of Human Relations and Conditions in Industry," started in Argeronne in 1922. It held a Congress in Flushing in 1925 and a Council Meeting on the Rigi last year, where "The Human Element in Scientific Management" was discussed. As a result of that meeting, a Summer School on Fatigue was planned for this summer.

It met—June 19 to 23—on one of the beautiful Italian lakes, a study group of about fifty, representing thirteen nationalities. There were engineers, economists, physiologists and psychologists, employers and employes—including managers, foremen and workers,—factory inspectors and welfare workers, and all with a deep interest in industrial problems. Most of them brought years of actual experience in industry as a background for the week of intensive study.

To the chairman, the group itself was a subject of never ending interest. Not easy always to confine to formal procedure, seeming at times rather to resent necessary routine and time schedules, it listened hour after hour to technical lectures and translations with untiring interest. It participated in discussions with a grasp on essentials, a measurement by standards of practice and a passion to make everything learned of direct and immediate service that was most impressive.

The lectures fell into several categories. There were those on the history of fatigue study, given by Professor Giovanni Loriga of Rome and Madame C. B. Thumen of Paris. Mr. Joseph Piacitelli, of the Barber Asphalt Company, New Jersey, lectured on the application of fatigue study to a specific industry. Dr. Otto Lipmann of Berlin spoke on the length of the working day and the results. The lectures by Dr. H. M. Vernon and Mr. H. C. Weston of the Industrial Fatigue Research Board of London were on fatigue caused by extremes of temperature, dust and damp, and on eye fatigue, and those of Professor Thomas Pear of Manchester were on work and temperament.

It was almost impossible to evaluate the impression made by these lectures at the time, and it is difficult to do so even now. Probably the effects were as varied as the listeners. Some evidently found the historical lectures most helpful, as explaining conditions we see, and outlining methods of investigation. Others found the results of practical experiments most helpful, as giving remedies for evils we all meet. Still others found the lectures that combined the findings of the psychologist with those of the psychiatrist, and explained *why* people act as they do, most fundamental and stimulating. Professor Pear has a special knack of making hard things sound easy and attractive, and it is only after one thinks over what he has said, or reads his abstracts, that one realizes how deep he has gone into ultimate causes.

The lecturers were submitted to perhaps too rigid an ordeal during the discussion periods. The usual questions which a speaker might be asked were supplemented by criticisms and the frankest personal reactions. This may be excused by the fact that this was a conference as well as a study group. Only a study of the personnel of the group could give an idea of the interest of these discussions. There were representatives—official or unofficial—of the Institute of Industrial Psychology of London, as well as of the Industrial Fatigue Research Board, of the International Labor Office, of the new International Management Institute, of the International Scientific Management Congress to be held this September at Rome, of the Schweizer Verband Volksdienst and of the various national scientific management and welfare groups in Europe, as well as of the four management groups in the United States. With all these, widely diversified and highly significant reactions were inevitable. There was an employer who stressed the need of making industrial work places beautiful as well as efficient; another who demonstrates through service as a working officer of this group a very practical interest; a third who brought a group of his "boys and girls" up from the factory to show not only how well they could sing, but how healthy and happy they looked; a worker who stated in telling phrases obligations of the various parties to industry and outlined the fundamentals of industrial economics; a factory inspector who preaches and practises a real philosophy of work, and a group from one English factory representing management foremanship and workers—all fatigue students.

The results of the meetings, so far as findings are concerned, are not easy to put into words, but an attempted summary follows. The abstracts of the lectures, discussions and findings will soon be available in print.

1. No satisfactory definition or measure of fatigue has as yet been made, though more careful distinctions than previously between, for example, fatigue and weariness, monotony and repetitive work are being drawn.
2. A clearer knowledge was acquired of the investigations that have taken place and those that should be made.
3. A body of facts on fatigue elimination was collected, evaluated and made available.
4. Methods of investigation—laboratory and plant—were stated, evaluated and made available.
5. An outline was worked out not only of *what* works in practice, but of *why* it works.
6. A realization was gained that likenesses between fatigue problems in all countries and in all types of industries warrant co-operation, but differences mean the need of adapting methods to national, group and individual needs.

At the Council meeting of the I. R. I. that followed the Summer School, its sessions were commended, and it was decided to hold similar schools on related subjects yearly between the triennial Congresses. The next Congress will be held in the summer of 1928 in England—probably at Oxford—during the end of June and the beginning of July. "Fundamental Relationships in Industry" is proposed as the subject.

From the I. R. I. meeting we went to Milan to spend a few days in visiting factories and psychotechnic institutes. I can imagine no greater thrill for a student of "human element" management than an experience like this. We visited an alarm clock factory, beautiful outside and in, with a tool room that is a joy to see, machines that are, many of them, instruments of precision, and work that for quality as well as quantity reaches high standards. A magneto factory had an efficient planning department and motion and fatigue study that compares favorably with anything one can see in the United States. Instruction cards were at each work place and each was illustrated with a photograph of the method to be used. A laboratory is maintained not only for giving psychological tests, but for fatigue tests, where work places, equipment and methods are studied at the same time that parallel studies are being made out in the plant. This is under the direction of Dr. Correggiari, this year's host of the I. R. I. meetings. Safety is provided for; fatigue-eliminating work chairs are in office and plant; proper work clothing is worn; adequate food is to be had, and, best of all, the right feeling exists in this plant where the management spends as many hours and works as intensively in the plant as the workers, and where the workers look and act well and satisfied and talk as if they felt an essential part of plant, industrial and national prosperity. We liked especially the sign in the plant cafeteria, "Educated people do not swear." These people seem "educated" in the industrial sense; they are teachers and learners, and that is the ideal industrial relation.

Psychotechnic institutes—we visited two in Milan—are surprisingly similar internationally. The technic varies a little; naturally each exhibits and stresses tests invented by its staff, but all increasingly attempt to find *aptitudes* as well as *skills*, and *likings* as well as *abilities*. We find an increasing willingness to co-operate between physiologists and psychologists, institutionally, nationally and internationally, and to realize that the psychiatrist, too, has a part in this work. Tests for selection and placement are improving, becoming both more practical and more adequate. The great need everywhere now is for tests that will assure that a man is not too good for the job, and provide for promotion.

We also had the pleasure of meeting a group of university women, and of finding them, as we did later the group in Zurich, especially interested in the possibilities of eliminating unnecessary fatigue from the home, by applying methods that have made good in industries where they have been used.

From Milan we went to Zurich, to attend an "International Course of Instruction on the Rationalization of Labour," organized by the "Swiss Committee for Rational Economy assisted by the Polytechnic Institute of Zurich." It was an interesting undertaking—four days of lectures and discussions with an international group of two hundred and thirty-eight academic and industrial men registered for the course. The sessions ran from eight-thirty until noon and often from two-thirty until six, from July 6 through noon of July 9. Professor W. V. Gonzenbach, Director of the Institute of Industrial Hygiene, acted as chairman and as one of the lecturers. The other lecturers were Professor Sutor and Professor Carrard of the Polytechnic Institute, Professor Sachsenberg of Dresden, Professor Lahy, and the writer. The lectures covered selection and training of workers, work methods, fatigue, rhythm and other aspects of the human element of scientific management.

These meetings were interesting because they were made up of both technicians and of industrial leaders who not only listened to accounts of each other's work but evaluated them. The four days' sessions were held in a large lecture hall of a polytechnic institute, and served to present to the group samples of present theory and practice in psychotechnics and scientific management. Printed abstracts of each lecture were distributed in advance, and the lectures were illustrated by films, slides, charts, drawings and working demonstrations. The discussion varied, from technical criticism of technic to questions of fundamentals and results in practice. It was lengthy, at times heated, contributed by all types in the group, and on the whole, highly stimulating.

The results of the course seemed satisfactory to the group and to those who organized it, as they certainly were to the lecturers who received very substantial appreciation and that stimulus that discussion and criticism bring. We came away with the feeling that:

1. Scientific management and its human side, as handled by psychotechnics, is making distinct advance everywhere.
2. This progress is healthy, as it shows increasingly agreement on principles and adaptation of practice to needs.
3. Such work needs the co-operation of engineers, physiologists, psychologists and psychiatrists.
4. Working *as a worker* in industry is prerequisite to success in management, including installation of scientific management and psychotechnic work.
5. Engineering training plus training in the "human sciences" almost invariably correlates positively with success in such work. Not only the lecturers but the discussors as well exemplified this and testified to it.

There is little new in these findings. That does not make them less interesting, however. And of course the fact that they agree with what many of us have believed for some time does not make them less attractive!

The fact that the discussion and the course closed with a proposal by the head of a large Swiss industrial plant that the manufacturers of the country found a Chair of Scientific Management at the Polytechnic Institute seemed a demonstration that the course and scientific management had been judged a success by the group.

Two days in plants near Zurich confirmed the feeling that the Swiss are not only interested in scientific management and its handling of the human element, but are applying it. One plant makes milling machines, the other engines. Both show what can be done when the employer lives near his plant and works in it; when not only material but human waste is systematically eliminated. The work done may be called "welfare" or "psychotechnic" or "training"; it is the scientific care of the human element.

Brief contacts with two other groups in Zurich gave added touches to our picture of industrial interests. The university women, as in Milan, were most responsive to the thought that industrial, professional and home life must be studied together, and all unnecessary fatigue eliminated. The Rotary Club, planning to assist in the exchange of students, and in other services, agreed that the fatigue that comes from lack of adequate leisure advantages must be eliminated by seeing that the young people get not only opportunities to work but to make desirable social contacts.

Next we went to Geneva to see our new International Management Institute. Started only a few months ago, with the help of the Twentieth Century Fund, the International Labor Office and the International Committee on Scientific Management Congresses, it has made splendid progress. It is housed in a small homelike villa next to the International Labor Office. Its small staff are all experts. We saw Mr. Devinat, the director, whose fine report on Scientific Management in Europe has recently been printed; our own Mr. Percy Brown, deputy director, and Mr. Kaufmann, Mr. Haan, Dr. Rabinovitch and Mr. Pleins.

The Institute is almost overwhelmed with opportunities for service but is confining itself rigidly to work that is not available elsewhere and to encouraging existing activities, fostering co-operation, collecting findings, correlating them and making them available. It needs most "documentation"— books, pamphlets, magazines, papers, everything that has to do with management in its allied fields, internationally. It must not of course be forced to ask for these, but we who are interested may ask for it, and hope that the need will so far as is possible be supplied at once, before the September Rome Congress and the visits of the groups that will undoubtedly include Geneva in their itineraries. It is a prime duty of the management people in the United States to supply this needed reference material and to see that all information is asked for or given through the Institute, thus making it a clearing house and service headquarters.

It has sufficient money and the best men available. It needs such material, interest and co-operation as can only be given by the individual initiative of the large group that it represents. It is perhaps needless to say that it demonstrates in its practice as well as in its theory efficient management—right handling not only of the "materials" element but of the "human" element, for whose betterment it exists.

We were fortunate enough also to see in Geneva Mr. Butler and several other members of the International Labor Office. Those who met Mr. Butler in the United States last winter do not need to be told of his keen interest in and co-operation with "human element" work, and this we believe is typical of the International Labor Office.

It was a great pleasure also to meet Professor Frederick of Karlsruh, whose new concepts of industrial responsibilities are not yet ready for publication, but who is demonstrating in his work what we all believe—that only as the worker is made adequate and courageous can permanent industrial prosperity result. We are hoping to see this work and similar new projects in Germany and other countries next summer.

Finally, we travelled back to Paris, to see Professor Lahy's tests, visit a Belgian and a few French department stores and attend a meeting of the French management group. The laboratory of Professor Lahy that we visited was the one in which bus and tram drivers are tested—a most interesting procedure. Just as in visiting the psychotechnic laboratories in institutions, here in this one, out on the job, we felt how practical this work is becoming, and how standardized internationally. How carefully the safety of the public and the individual is being conserved! And one hopes for developments that will insure each accepted worker incentives and opportunities to develop latent abilities and follow a well thought through and adequately maintained line of promotion. It is true the psychotechnician has seldom been asked to provide this service. Perhaps he should not be asked. But it is certainly a responsibility of industry to see that this work is done, and that the psychotechnician be given first chance at the work.

What can one say of department stores when only a few hours were spent in each! The head of the one visited in Belgium certainly has a fine grasp on the essentials of efficient management, and one is not surprised to find that he is an active member of the Belgian group interested in management problems. His store indicates understanding of the human element, both in dealing with the selling force and with customers. Limitless opportunities apparently exist for women as well as for men. A desire to sell style information, recreation and service, as well as goods, willingness to study such new developments as the planning department, and to co-operate in attacking common merchandising problems were also found here.

Both in the Brussels and in the Paris stores visited there seems to be a real interest in the customer *as a person* as well as in the customer *as a purchaser,* which to me goes far to explain the popularity of shopping abroad. There is more study of fatigue of customers, psychological as well as physical, than we are accustomed to at home.

Our last "event" was the meeting with the Comité National de l'Organization Francaise. This group is the result of the fusion of the two French groups, that which supported the teachings of Taylor, and that which followed Fayol. That the two, each well established and prosperous, should have become one, at the suggestion of the late M. Fayol himself, is highly significant of the spirit of co-operation that prevails. Presided over by M. de Freminville, one of the most genial of the pioneers of scientific management in France, the group makes foreign guests most welcome. M. de Freminville outlined the history of the Comité, its work and its relation to the new Institute at Geneva, and spoke of the American leaders in scientific management so feelingly that the message of greeting from the management groups of this country could not fail of a hearty reception.

The fact that the editors of "Mon Bureau," a magazine devoted to efficiency in the office, and "Mon Chez Moi," a magazine devoted to efficiency in the home, are welcome members of this group, and anxious to make its findings available to their readers, indicates the scope of the work.

And now, writing on the boat coming home, I am filled with a feeling of optimism. It is not the numbers of people met that counts. That was necessarily small. It is the fact that, in these few weeks, in these few countries, everywhere one found interest and enthusiasm and co-operation. Now come the Rome Congress of the International Management group in September, and the Engineering Congress planned for Japan in 1929. But we are not planning only; we are performing as well. We are defining and assigning, and getting at our problems. And that is a fine start. None of us wishes that they were all solved!

IT HAS often been remarked, both by Americans themselves and by foreign observers, that the American workman adopts a different attitude towards his employer and towards his associates from that of the workmen of other countries. That there is some truth in this assertion can hardly be denied. . . The theoretical basis of the American labor movement . . . is certainly different from that of European movements, though perhaps it is more a question of method than of ultimate aim. . . The atmosphere of a "new country," in which possibilities are still enormous, class divisions are yet barely perceptible and the process of social crystallisation only beginning, naturally breeds a different outlook in the worker to that which prevails in countries which have reached the limit of their expansion and where the social hierarchy has been solidified for generations. No doubt frequent instances could be found in most countries of men who have gone from the bottom to the top of the industrial ladder, but in America they are far more numerous than elsewhere. Many workmen still feel that they may in their turn become a Ford or a Swift or a Rockefeller, if they can save some money and a little luck comes their way. Moreover, industry is swelling so fast that even without any special good fortune the ordinary worker may hope for promotion far more reasonably than can the worker in a country where the rate of economic growth is less meteoric. As a consequence not only has he a stronger belief in his own capacity to rise in the social scale, but the obstacles to his doing so are less formidable. The number of employers and high officials who have come up from the ranks is undoubtedly very considerable. One can hardly fail to find them in any big business. This is a fact which has an obvious bearing on industrial relations, though it is easy to exaggerate its effects. It is not always the employer who started life as a labourer who has the greatest sympathy with his own labourers' claim to better wages and conditions. Because they were good enough for him in his young days, he is sometimes apt to suppose that they ought to be indefinitely satisfactory. But on the whole knowledge breeds understanding and therefore tends to ease the relationship between employer and employe. Again, the worker's knowledge that avenues of advancement are open to him, besides being a stimulus to the more ambitious, has prevented the growth of a "class-conscious" attitude prevented society at large. . . [This] also influences the American worker's attitude toward his fellows. (H. B. Butler, C. B., Deputy-Director of the International Labour Office, "Industrial Relations in the United States," pp. 17, 18).

A Plan of Unemployment Insurance By Industry

The Administration of the Plan Inaugurated in 1923 by the Men's Clothing Industry of Chicago

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THE PLAN of unemployment insurance in 1923 in the men's clothing industry of Chicago under an agreement between the National Industrial Federation of Clothing Manufacturers and the Amalgamated Clothing Workers of America marks a new phase in the brief history of unemployment insurance in this country. Up to that time a few individual employers had established unemployment funds for their employes, a small number of trade unions had paid unemployment benefits, and the cloak and suit industry of Cleveland had guaranteed unemployment payments to its employes, numbering under 5000, in case their employment should not total forty weeks in the year. But the Chicago agreement involved co-operation by employers of about 350 establishments, large and small, employing about 25,000 workers. It was much more ambitious than anything previously attempted. Contributions for the period May 1, 1923, to October 31, 1926, amounted to $3,250,000.00 and benefits paid totalled $2,650,000.00.

The plan is under the direction of trustees representing the two sides with a neutral chairman. There are five boards of trustees, one for Hart, Schaffner and Marx, one for the House of Kuppenheimer, one for Alfred Decker and Cohn, one for the remaining large concerns, and one for the contractors. In view of the difficulty of securing agreement upon trustees among the non-association firms, their funds have been administered by the Chairman in conformity with the procedure of the other boards. The contributions from the contractors and their employes are pooled in one fund, but the contributions from all other employers are kept separate in individual house funds. The result is the pooling of the contributions from 150 small contracting establishments and separate house funds for about one hundred of the larger concerns. For the unpooled firms there are theoretically as many boards of trustees as there are employers, but this difficulty is overcome by the firms agreeing upon the same trustees and by the trustees legislating for all firms at the same time unless they otherwise indicate. Co-ordination of the various boards is secured through the chairman who acts for all the boards.

The trustees are charged with making administrative rules, receiving contributions, and distributing benefits. The funds are placed under the control of the trustees. In the event of disruption of relations between the two sides or the liquidation of a firm, the trustees are required to distribute the funds as unemployment benefit to unemployed members of the union in Chicago within a period of five years.

Terms of the Agreement

The terms of the final agreement and the rules as they now stand are summarized below:

1. *Contributions.* Beginning May 1, 1923, the employer shall deduct 1.5 per cent of the weekly earnings of each member of the union in his employ and shall forward to the trustees weekly the money so deducted, together with an equal amount contributed by himself.

2. *Waiting Period.*

a. For workers on short time, the waiting period in each season shall be forty-four hours.

b. For workers on layoff, the waiting period in each season shall be forty-four hours after registering at the employment exchange.

3. *Unemployment.*

a. Time on layoff in excess of the waiting period shall be counted as unemployment.

b. All short time after, allowing for the waiting period, shall be counted as unemployment on the same basis as time on layoff.

c. Every hour of overtime shall offset one hour of unemployment.

4. *Amount of Benefit.*

a. Benefit shall be thirty per cent of full-time wages with $15 per week as a maximum.

b. Not more than two and one-half weeks' benefit shall be paid in either of the two seasons May to October and November to April.

c. A worker on short time shall not be credited in any week with wages and benefit in excess of $50.

d. Benefits in any insurance year shall not exceed one week of benefit for every ten weeks on payroll.

5. *Eligibility for Benefit.* To be eligible for unemployment benefit, a worker:

a. Must have been a member of the union in good standing for one year.

b. Must have contributed regularly during his employment.

c. Must be unemployed because of lack of work.

d. Must be registered at the employment exchange, if wholly unemployed, and must not have declined to accept suitable employment.

e. Must not have exhausted his right to benefit.

6. *Distribution of Benefits.*

a. Full-time benefits shall be distributed by the employment exchange.

b. Distribution of short-time benefits shall be arranged by the Amalgamated Trust and Savings Bank.

7. *Transfers.*

a. When a worker is employed temporarily, his contribution shall be transferred to the fund of the firm that employs him permanently.

b. When a worker is separated permanently from any firm, he shall forfeit all claim upon the fund of that firm, but shall share equally with the other employes in the fund of the firm that next gives him permanent employment.

8. *Special Rules for Temporary Cutters.* The insurance contributions of temporary cutters shall be set aside as an unemployment fund for temporary cutters. Cutters shall receive twenty-five per cent of their weekly wages as benefit instead of thirty per cent and the saving so effected shall be part of the temporary cutter's fund. Permanent cutters shall be limited to five weeks' benefit in the year and temporary cutters to six weeks' benefit.

9. *Limitation on Size of the Fund.* The unemployment fund of any firm shall not be permitted to accumulate beyond an amount equal to the total maximum benefits payable during a period of two years. When it reaches that amount, contributions shall cease on both sides and shall be revived only when the fund is reduced to an amount less than the total maximum benefits payable during a period of one year.

Planning the Administration

In planning the administration there was much discussion as to whether the work of all the funds should be centralized in one office or whether each firm should administer its own scheme. The latter proposal raised obvious difficulties. The small contractors were quite incompetent to carry on the work. Close inspection of the administration of each fund would be necessary to ensure against irregularities and to guarantee proper accounting for all contributions; the firms would be involved in some expense for the maintenance of individual contribution and benefit records and these would have to be forwarded to the chairman when appeals were being heard and accompany the worker when he left to accept employment with another firm. Moreover, it would be necessary to make a settlement with each departing worker to cover benefit due for unemployment incurred since the last payment. Some of the firms flatly refused to be saddled with this work and expense and in the end the trustees centered the administration of all the funds in one Unemployment Insurance Office established in December, 1923.

Then came consideration of actual administrative procedure. As there was no similar plan in America to offer precedents the procedure of Great Britain's vast scheme of unemployment insurance was examined closely. There the employer deducts the amount of the worker's contribution from his wages and places government unemployment insurance stamps covering this amount and the employer's contribution in the worker's book which is deposited with the employer during the period of employment. When an employe is out of work he takes the book to the government employment exchange and his claim for benefit is decided. For some time it was thought that the stamp system could be adapted to the requirements of the Chicago scheme but in the end it was considered impracticable. In Great Britain all the workers pay the same contributions regardless of their earnings and they also receive a flat amount of benefit. While the employer's contribution is slightly higher than that of the worker, the employer contributes the same amount for every employe and accordingly only two denominations of stamps are used throughout Great Britain. The Chicago agreement, on the other hand, established contributions of one and one-half per cent of the worker's pay and an equal amount from the employer, and there can be no fixed contribution for the vast majority of the employes are under the piece-work system. The industry's practice of rationing employment in slack times in preference to laying off employes makes for still greater variation in earnings and contributions. The stamp system would involve so many different denominations of stamps and so much clerical expense that all thought of it was dismissed.

It was soon realized that the problem of administration because of the basing of contributions and benefits on earnings and the payment of benefits for short time as well as for complete unemployment was much more complex than in the British scheme. Certainly more data would be called for, and a record for each worker in the market covering his weekly hours of employment, earnings and insurance contribution was decided upon. It was obvious that before benefits could be paid, a complete record of the worker's hours of employment indicating overtime, if any, would be necessary in order to calculate the time lost through short-time and layoff for the period in question and in order to deduct overtime from this unemployment as required by the rules. Calculation of benefit also demanded a record of the weekly wages earned by each employe, since benefit was to be a stated percentage of the full-time weekly earnings and no consideration could be given to a worker's eligibility without a statement of the number and amount of his contributions. The trustees were authorized by the agreement to require the employers and the union to forward any information necessary for the administration of the scheme, but they hesitated to impose such a report upon the firms involving, as it did, a transcript of most of the information on the payroll. Finally they were given the option of forwarding this report or of loaning their payrolls to the Unemployment Insurance Office one day in each week. All the larger firms adopted the latter practice but the smaller concerns with few employes found it more convenient to send in the report and the Unemployment Insurance Office supplied them with a form for the purpose. The form also provides for the reporting of voluntary absence so that no benefit may be paid on this account and the larger houses were instructed to indicate voluntary absences on the payrolls.

Division of the Work

The work of the Office falls into three divisions —records, benefits and accounts. The records division has the responsibility of collecting the payrolls and payroll reports from the employers and the employment exchange reports from the union, of posting the payroll data and the employment exchange registrations and assignments to the records of the individual workers and of returning the payrolls to the firms.

The accounts division maintains the individual fund accounts for the various houses in the market. It charges each firm with the three per cent weekly contributions indicated on the reports and credits it with the cash contributions as received. It banks the money received daily and co-operates with the treasurers of the various boards in the investment of surplus funds in United States securities as provided by the agreement. This division also records the benefits paid on account of each firm, charges the firm with its share of the expenses of administering the office and indicates the balance available in the fund.

The trustees maintain one central benefit account for the market from which all benefit payments are made except those to temporary cutters for whom a separate fund has been established. As cash is needed for benefit purposes the treasurer notifies the trustee board concerned and they liquidate securities and transfer the proceeds to the benefit or temporary cutters accounts.

The benefits division decides upon each worker's eligibility for benefit and issues the benefit checks. Benefits are paid twice in the year—April 30 and November 30—at the close of the half-yearly benefit periods. At the outset the office began paying benefits monthly but in some months the time loss was slight and the benefit check, correspondingly small, was unappreciated. The plan of making one payment for the season was found more satisfactory to the workers and less expensive.

Another difficulty was encountered in this division of the work. The great majority of the employes were European immigrants, and as a worker moved from shop to shop his name was reported so differently by the employers that he lost his identity in the office. Frequently there were two or more employment records for the same employe and in consequence as many benefit checks would be issued. At the beginning of the second season the insurance office secured the local and ledger numbers the workers carry on the books of the union and posted them on the employment records. In addition a benefit record was set up for each employe and filed in the order of the ledger numbers. The accumulated lost time is posted at the end of the season from the employment record to the local ledger card and benefits are paid on the basis of this benefit record. If an individual worker's history is spread over a number of employment records all of these will carry the one ledger number and will be posted to the one benefit card of the same ledger number and so prevent payment of two benefits to the same employe.

Records and Statistics

1. Copies of all registrations and assignments of workers forwarded by the union's employment exchange are directed to a records clerk who notes them on the records of the workers concerned. The registration form indicates the shop in which the worker was last employed and the cause of unemployment—quit, lay off, etc. The assignment form indicates the worker's last place of employment, the date he left it and the shop to which he is being sent. Both forms designate the worker by local and ledger number as well as by name. In recording a registration, it is noted first whether the worker's payroll item for the week in which he left his last place of employment has been entered on his card. If so, it is evident that his name will not appear on subsequent reports from that shop and his record is transferred to a central file of unattached workers. If his last payroll entry does not appear, the record is left in the old shop file for transfer to the central file after the payroll report for that week has been received and posted. In recording an assignment the clerk tries first to locate the worker's record in the central file and then in the file of the shop where he was last employed. It is transferred to the file of the new shop but if any payroll items from the old shop have to be secured, a "flimsy" with the worker's name, number and new shop is left in its place to receive the required data from the last place of employment and then to be copied on the original record in the new shop file.

The trade agreements of the market provide that the firms shall notify the union of all their labor requirements and the trustees direct the union's employment exchange to report to the Unemployment Insurance Office all registrations of unemployed workers and their assignments to the shops. These reports have been a valuable aid to the Office in transferring the workers' records from one shop file to another as they move about in the market.

2. Payroll reports received in the office are usually accompanied by checks to cover the contributions indicated for the week. A follow-up form is maintained for each shop in the market. It is divided into fifty-two weekly spaces, twenty-six on each side. Immediately a report arrives in the mail the receiving clerk notes in the corresponding weekly space on this form the date of the payroll, the date of receipt and the amount of the check. It is filed in a visible index file and shows at a glance just what reports have been received for the shop. The follow-up clerk, who also acts as telephone operator, can ascertain at any time what reports are missing. She telephones the firm, or if necessary advises the union business agent concerned, for it is the duty of these officials to watch the reporting of the firms in their jurisdictions. This form is also an indispensable aid to the accounts division. (See ¶ 24).

3. The receiving clerk dates the reports and checks as received in the mail and attaches to each report a form which is in part a schedule of the work to be done on the report and in part a pay coupon for the posting clerk who is paid by the piece. The receiving clerk enters on this schedule and on the coupon the name of the firm and shop.

The reports for all the shops of a given firm—coats, pants, vests, cutting room, etc.—are separated and a schedule is attached to each report. The form also carries the date of the report, the number of the week in the office's fiscal year (May 1 to April 30) it covers and the number of postings to be transferred to the records of the workers, that is, the number of employes for whom entries of wages, hours and contributions are shown on the report. The form is in two parts, the upper half being used when the firm sends a payroll report, and the lower half when the actual payroll is loaned to the office. Each clerk dates and initials the schedule form opposite the operation performed.

4. The reports with checks attached go forward to a comptometer operator who recalculates the employer's deductions of one and one-half per cent. Errors in figures are noted in ink of a special color and the reports and checks are then forwarded to the remittance clerk.

5. At this desk the checks are detached and listed by firm, shop and payroll dates, on a daily remittance sheet. The amount of contributions as reported by the firm and as discovered by the comptometer operator is indicated. The sheets are numbered serially and typed in triplicate, the original going to the bank as a deposit slip, one copy to the accounting division, and one copy being retained at the desk. Before the remittance clerk takes the checks to the bank for deposit the sheets are checked with the reports by an account clerk. Reports unaccompanied by checks are listed on separate sheets which are forwarded to the accounts division.

6. The reports are sent next to the record clerks who arrange the workers' records in the order in which the names appear on the payroll so that the posting clerks may transfer the data to these records without losing time in sorting. Each record clerk has charge of a tab desk containing the weekly payroll records of about 5000 workers, grouped by the shops in which they are employed and arranged in the order of the last payroll. Each report received shows some change in personnel since the last. Some workers have been dropped and their records are transferred to a central file. The records of others added to the payroll are located in the central file and transferred to the file of their new shop.

7. An important statistical by-product is derived from this bit of routine, for by keeping count of the cards added to and taken from the central file the clerk has really discovered the number of accessions and separations for the shop during the week, in short, the labor turnover figures. Accordingly she enters on a form the number of new employes taken on, and the number of the firms' employes on layoff reinstated during the week. The numbers of employes transferred in, from other shops of the same firm, and out to other shops of the firm are also recorded and the number of quits is entered in a final column.

8. The unemployment figures for the week are also secured. The record clerk notes from the form attached to the report (See ¶ 3) the number of postings which is, of course, the number of employes actually working. A glance through the report indicates the numbers reported by the employer as voluntarily absent and on lay-off throughout the week. The number of those not working for whose absence a satisfactory explanation is not given is entered in an "in question" column for the attention of the follow-up clerk who must communicate with the firm and secure the information. The total of those working and those absent for the various reasons indicated gives the total number of employes on the payroll for the week. The record clerk attaches the statistical form to the report which then goes forward with the workers' records for posting.

9. The posting clerks post by bookkeeping machines to each worker's record his hours, earnings and contribution as shown on the report for the week. When the posting for the shop is completed the totals indicated by the machine for the three items are posted on a shop card, which is in the same form as the worker's record but of a different color and is filed with the records of the employes of the shop. The totals are also posted on the statistical form which is then a complete record of the employment, unemployment and labor turnover for the week. The posting clerk detaches the pay coupon from the schedule form (See ¶ 3) and returns the reports and workers' cards to the records clerks together with the statistical cards and schedules.

10. Before filing the workers' cards the records clerk makes sure that the totals agree with the employers' figures as corrected. (See ¶ 4). She

sends the completed statistical record to the statistical clerk and the reports go forward to the files. Here the schedule form is detached and the report is filed, but first the date of posting and the posting clerk are noted on the follow-up form.

11. The statistical clerk punches the data on the statistical form on a Hollerith card. These forms are sent regularly to a statistical service where they are tabulated and weekly figures on man hours, earnings, unemployment by causes, and labor turnover are derived. The statement returned to the Unemployment Insurance Office shows the record for the week for every shop, the totals for each firm and for each branch of the trade (Clothiers, Tailors, Cut, Trim and Make, and Contractors) and the market totals. From these figures curves of employment, earnings and numbers actually working are plotted for the market, for the different trade groups and for each of the larger firms.

12. The procedure on the payrolls loaned by the firms differs but slightly from that on payroll reports as is indicated by the operations listed for the two kinds of work on the schedule form. The receipt of payrolls is staggered through the week on a regular schedule in order to avoid peaks of work in the office. Payrolls are given immediate attention for they must be returned to the firm within twenty-four hours. There is not the same need for haste with the reports since they remain in the custody of the Office; they are held in reserve and posted when no payrolls are on hand.

Benefits

13. As time permits the records clerks (See ¶ 5), assisted and checked by the benefit clerks in the periods between benefit payments, compute the compensable unemployment for each worker as shown by his record and enter the weekly figure and the cumulative total in the unemployment columns of the record form. When a worker has incurred the maximum of compensable unemployment for the season computation is discontinued.

14. Towards the close of the season the benefits division examines the individual weekly earnings as shown on the employment records. The wage rate upon which the benefit is to be based is determined for each worker and entered on his record. In deciding upon this figure the rater takes an average of the worker's earnings in the weeks of best employment, on the theory that as the employe is on piece work and knows in the dull season that there is not a full day's employment for him he works more slowly and earns less.

15. When all the season's reports and contributions for any firm have been received and the workers' employment records are complete the benefit clerks draw these records and post the lost time indicated for the season (See ¶ 13) to the ledger cards. The hours of unemployment for which payment is to be made, the week of the fiscal year when the total amount of compensable unemployment was reached and the worker's full-time wage rate are indicated. When an employe of the shop is not entitled to any benefit, a slip stating the reason is prepared and held to be distributed with the benefit checks.

16. The benefits supervisor now sends the ledger cards to the check writers, first attaching to the records for each shop a dated schedule stating the maximum hours to be paid, the amount of the firm's fund in order to guard against its exhaustion and an estimate of the amount required to pay the benefits. On completion of the checks for the shop the check writer enters on the schedule the numbers of the first and last checks issued for the shop and the total amount of the checks and signs and dates it.

17. Benefit checks are written in sheets of five on the Burroughs Moon Hopkins machine, the operator being able to calculate the amount of benefit due and to type the check on the one machine. The worker's ledger number, his shop and the hours of unemployment covered by the payment are entered in the left margin of the check. The hourly rate of benefit (thirty per cent of the hourly wage rate) is then computed and indicated on the check and this when multiplied by the number of hours of compensable unemployment gives the amount of the check, which is then typed in. The machine totals the checks as calculated and the total for each shop is entered on the last check for that shop. The total for the day is entered on the last check for the day. The first total enables the employer, who is forwarded carbon copies of all checks in favor of his employes so that he may protest if so inclined, to see at a glance by how much his fund has been depleted and to make the necessary entry on his books. The accounting division of the insurance office uses

both totals secured from a second carbon (See ¶ 21). Immediately each check is typed, the employe's ledger card is inserted in the machine on one section of the split roller and the amount and number of the check are entered.

18. The benefits supervisor signs the treasurer's name to the checks. A signagraph machine is used and five checks are signed simultaneously. Explanation slips covering cases of workers not entitled to benefit (See ¶ 15) are sorted in with the checks and distribution is made at the shop by the business agent of the union. Checks for workers unattached to any shop are forwarded to the union's employment exchange for delivery, for all totally unemployed workers must register at the exchange.

19. A worker may claim benefit or additional benefit by applying to his business agent if he is attached to a shop or to the employment exchange if he is entirely out of work. In either case a statement of the claim is made on a suitable form and forwarded to the Insurance Office. The worker's record is again examined and the claim is returned with an explanation accompanied by a check if the claim is justified. If the worker is still dissatisfied he may appeal to the Chairman for a final decision.

Accounts

20. The contributions receivable from each firm, as indicated by the borrowed payroll or payroll report, and the amount of cash received are posted to a contributions ledger account from carbon copies of the daily remittance sheet. Posting is done on a subtractor bookkeeping machine and the balance is always up-to-date.

21. The benefit fund account of each firm is kept in much the same way. The cash contributions received are posted to this account from the remittance sheet carbon and the total of benefits paid for the firm from day to day from carbon copies of the checks issued (See ¶ 17). The balance indicates the sum available for benefits. Every six months each fund is assessed with its share of the administrative expense and, if the firm employs cutters, with its quota of the benefits to temporary cutters.

22. Control accounts are maintained for each board of trustees. They cover, by seasons, contributions receivable, contributions received and benefits paid and show the totals and balances for all firms in the board's jurisdiction. Similar accounts are kept on office and equipment expense. Totals are shown on these accounts at the end of each season, trial balances are struck every month and a monthly report is sent to the trustees. The report is accompanied by two exhibits of the individual firm figures. Exhibit A shows for each firm contributions received, withdrawals for benefits and expenses since the inauguration of the scheme and the balance on hand. Exhibit B indicates the contributions reported by each firm to date, the contributions received, any balance due on contributions reported and any weeks for which reports have not been received. This report gives the trustees the financial status of each house fund within their jurisdiction and informs them of any firms delinquent in contributions or reports.

23. A cash balance is struck daily and once a week the office prepares a formal statement for the chairman. It shows group totals of contributions, benefits and expenses for the firms supervised by each board of trustees and grand totals indicating the income and expenditure of the office as a whole. The statement is historical in that it gives the contributions and benefits by seasons as well as by groups of firms under each board. The disposition of contributions and income from funds by transfers to benefit, temporary cutters, office expense and equipment expense accounts and the balances remaining for transfer are indicated. The expenditures and balances in these different benefit and expense accounts are also given and a summary of the balances shows the amount of funds on hand to be accounted for by cash in banks and securities in safe deposit.

24. Once a month the accounts division sends each firm a statement of the total contributions reported to date, the total contributions received, the balance due on contributions reported, taking into account errors in the firm's figures and the amount of cash available for benefits remaining in the firm's fund. Weeks for which reports have not been received are indicated and the firm is requested to forward these together with any balance due without delay.

25. The cost of administering the scheme exclusive of equipment expense up to January 1, 1927, was six and two-tenths per cent of the contributions received.

Time Study and Job Analysis

By A. L. KRESS

Industrial Engineer, Williamsport, Pa.

THERE has been some discussion in current management literature recently as to the purpose of time study. Some continue to see in it nothing but a mechanism to discover how long it takes to do work; in other words, to set rates. The real savings come largely through the improvement of methods. Improvement in methods, in turn, comes largely through subjecting the job to a detailed analysis. The following Job Analysis Outline was worked up by the writer for two purposes:

1. To afford a systematic basis for surveying every phase of the job.
2. To use in developing the ability to analyze and observe on the part of men who had little or no time study experience.

The writer disclaims any particular originality in working up this outline. Parts of it were drawn from an early outline by Messrs. Valentine, Tead and Gregg. It is offered with the hope that it may be of some assistance to those who may be faced with either or both of the above needs.

I. The Job Itself

A. Name of job.
B. Department.
C. General description (brief).
D. Type—hand, machine, combination?
E. Number of persons employed on it?
F. What operation precedes it? Follows it?

II. The Machinery

A. Describe.
B. Layout—make sketch if necessary.
C. Best on market?
D. In good condition?
E. Responsibility for adjustment, repair, cleaning, oiling?
F. When and how often are these operations done?
G. Speed or speeds. Constant? Variable? Idle? Under load? How determined? How is speed controlled? By whom?
H. Power control? Where? By whom?
I. Trouble peculiar to each machine.

III. Tools and Equipment

A. What tools are used?
B. Are they standardized?
C. How kept? How supplied?
D. Sharpened? By whom? How often?
E. What equipment?
F. How provided? Kept?

IV. Materials

A. What materials are used?
B. How ordered? By whom?
C. How identified? Labels, tags, etc.?
D. How moved to job? By whom? In what quantities? How often? Readily accessible to operators?
E. Prevalent form, size, weight, color, texture, gauge?
F. Is material standardized? Does it vary from standard?
G. Effect of variations on times, quality, quantity.
H. Under whose control are these variations?
I. What is value of material operator uses?
J. Waste or by-product? Amount, control, records, method and frequency of disposal?
K. Is finished material removed properly? By whom? How? In what form?
L. Spoiled, defective or damaged work—available records, amount of?
M. List inspection points or possible defects showing under whose control causes are.

V. The Operation

A. The element.

1. Sequence—describe in chronological order each step as you saw it done.
2. What elements are constant? Variable?
3. What factors govern variable elements?
4. Give roughly the time for each element in hundredths of a minute. Time a complete cycle to get this.
5. What per cent of the total cycle time is each element?
6. How many times is each element performed daily?
7. What per cent of the day's work is each element?

B. Are all elements necessary? Are all motions necessary? Are they the best possible?

C. What are the prevalent postures (sitting, standing, stooping?)

D. What parts of the body are used?

E. Length of working day and week?

F. Overtime—extent and distribution?

G. Night work—extent and distribution?

H. Meal intervals. When? How long?

I. Rest periods, if any. How many? When? How long?

J. Amount of lost time or interruptions for any cause?

K. Speed and rhythm of work?

VI. Records

A. What written or oral instructions are given to the worker as to what is to be done? By whom? When?

B. What records of material, time, labor, etc., does the worker make, get, keep or turn in?

C. What ability to read, write or figure are necessary for this record keeping?

D. What records are available as to daily production earnings, waste, etc? By whom made? Where kept?

VII. Pay and Payment Plans

A. On what basis is a job paid for? Day work? Piece work? Unit of pay? Describe in full.

B. What is the rate?

C. On what basis is overtime paid for? Training periods?

D. On what basis is night work paid for?

E. Deductions or fines.

F. What hourly and weekly earnings are received from the job? What is the standard wage for Starting Rate, Minimum Rate, Maximum Hourly Day Rate, Piece Work Hourly Rate?

G. Common fluctuations—extent, frequency and causes.

VIII. The Job in Relation to the Organization

A. Physical working conditions. How is the job affected by:

1. Fire hazard?
2. Accident hazard? Existing safety devices? In use?
3. Sickness hazard?
4. Defects in ventilation and heating?
5. Defects in lighting, natural and artificial?
6. Materials of floors?
7. Noise and vibration?
8. Chairs, etc.?

B. Labor turnover.

1. Are any records available on the turnover on this job? Amount of turnover?
2. Is work fluctuating or seasonal?
3. How is the job affected by rapid shifting of employes?
4. Causes of shifting?

C. The effects of the job on the worker.

1. Are there any occupational diseases caused by this job?
2. Physiological effects of fatigue, occupational disease or conditions of work on nervous, digestive, respiratory and muscular systems of the workers and on special senses such as seeing, hearing and touch, or on the skin or particular parts of the body. (For example, the strain on fingers and forearms in "pulling over," causing muscular pains; the strain on backs and legs in "bed lasting;"on the forearms in cutting uppers).
3. Mental effects from:
    a. Fatigue.
    b. Occupational hazards.
    c. Monotony.
4. What records are available in the industrial relations department as to sickness and accidents on this job?

D. Training.

1. What previous general education, specific training or experience, are necessary?
2. Who gives initial training to new workers?
3. How many workers per instructor?
4. How is this given? For how long continued? Method of payment?
5. Average time necessary to learn the job?
6. Is written copy of work instructions furnished the workers?
7. What inspection policy and methods?
8. How many workers per inspector?

IX. The Personnel on the Job

A. Number workers employed at this job? Names? Pay roll numbers?

B. What are each individual's average earnings?

1. Per hour piece work.
2. Per hour day work.
3. Per hour day and piece work. (Two weeks average taken January, July, October).

C. How long has each man been engaged on the job?

D. If available, give average weekly production figures. State total productive hours per week.

E. What is the present total work scheduled? How is it divided? Why?

F. State responsibilities of workman.

G. What is the present unit labor cost?

X. Selection of Workers to be Studied

A. From IX A, tabulate workmen in order of their hourly earning capacity.

B. How does the foreman rate them as to workmanship? Skill? Speed?

C. Whom does he recommend for observation and study? Why?

D. Whom do workmen recommend? Why?

E. Whom do you recommend? Why?

XI. Cost Data

A. What data are available in the Cost Department on this job as to:

1. Labor cost?
2. Material cost?
3. Overhead?

XII. The Planning Department

A. Is the Planning Department controlling this operation through time tickets? Is the work planned? By whom?

B. If not, how will the job be affected when planning is instituted? What elements?

C. Are back time tickets (Planning) available? If so, tabulate over-all times from them.

Pennsylvania State College Industrial Management Conference

August 22—September 3, 1927.

The twelfth annual summer conference for industrial executives will be held under the joint auspices of the departments of Industrial Engineering and Engineering Extension of the Pennsylvania State College from August 22 to September 3. Professor C. W. Beese, Head of the Industrial Engineering Department, The Pennsylvania State College, State College, Pa., should be addressed for details concerning the program, which deals with problems of organization affecting all executives from the foreman to the president.

News of the Sections

Central New York

The Central New York Section of the Taylor Society completed its program for the year with a field day June 10, the invitations for which included the ladies. After having luncheon together at the Hotel Oneida the group visited the Sherrill plant of Oneida Community, Limited, through the courtesy of Mr. E. F. Kitendaugh, auditor of the company. Following the plant visit and dinner at the Oneida Community Administration Building, Mr. M. E. Robertson, general manager of the company, gave a talk on "Marketing and Distribution Problems of the Oneida Community, Limited."

New York Southern Tier

The final meeting of the Southern Tier Section was held on June 13, when Mr. Robert Andersen, Production Manager of the Bowen Products Corporation, Auburn, N. Y., and Chairman of the Central New York Section, was the speaker. His subject was "Pride of Achievement Under Present Incentive Methods of Wage Payment."

Reviews

Wage Scales and Job Evaluation. By Merrill R. Lott, The Ronald Press, New York, 1926, pages x, 161.

Mr. Lott's purpose is well expressed in the subtitle of his book, "Scientific determination of wage rates on the basis of services rendered." In the preface he states that he does not intend to deal with theories of wages or the economics of compensation, but rather to present the results of actual experiments in developing an equitable wage program for a manufacturing concern.

The first step in making a wage program is to make a job analysis and prepare specifications of each job. A list must then be made of the various factors that exert an influence over jobs. The author proposes fifteen such factors: length of time required to learn; time required to adapt skill; scarcity of labor supply; difficulty in locating elsewhere; educational requirment; prevailing rate; degree of accuracy and skill; ingenuity; possible loss to company through unintentional errors; dependence that must be placed on the integrity and honesty of effort; dirtiness of working conditions; exposure to accident hazard; physical effort required; monotony of work. Giving these a total value of one hundred the author weights each factor in accordance with the combined judgments of several supervisors and workmen. Thus the first item, time required to learn the occupation, is given a weight of twenty-three points while the last four mentioned are given a weight of three points each.

In rating any single occupation, objectivity is sought as follows: An occupation requiring ten years or more to learn would receive all the points assigned to that item; one requiring only one to two years of apprenticeship would receive only one-tenth of the possible number of points assigned to the item, and so on.

Having established degrees to which each factor may enter in, one may give a rating to an occupation by summing up the weights attached to the fifteen factors as they affect that occupation. For example, in one plant where the system was applied, the occupation of tool maker received ninety-five points; that of electro-plater received seventy-one points; that of common laborer received fifty-three points.

The next step is to translate value in points into wages. In doing this the author points out that his scheme is designed not to establish absolute values of occupations but only relative values. Accordingly his procedure is to take all the money available for paying wages in a concern and distribute it among the various occupations according to their several values. The rate given to the common laborer is considered as a basic rate; the amount assigned him being the lowest that can be regarded as sufficient to support a family. Thus the rate paid to a common laborer in one concern was fifty-three cents an hour, and that paid to a tool-maker was ninety cents. On a specially constructed diagram, rates for intermediate jobs may be determined by means of drawing intersecting lines.

To meet the natural demand that this system be flexible enough to allow for recognition of unusually valuable workers, the author has established four grades of value that a man might have in an occupation represented by the letters A, B, C, D. An A man would receive the maximum rate as set according to the procedure just described; the men graded B, C, and D would receive graduated amounts. It should be remarked that a worker is not rated according to a single inclusive judgment, but with respect to four points: Experience, Knowledge, Use of Knowledge and General Value, and Physical Suitability. For example, four tool-makers with total value of 89.2, 75.8, 87.5, and 74.6 points respectively would receive hourly rates as follows: eighty-three, eighty, eighty-three, and seventy-seven cents. Of course a man can raise himself from one level to another by improving himself in various respects.

By citing concrete examples the author presents the advantages inherent in this plan, among which are a more accurate recognition of merit and a stimulation toward the development of greater skill and knowledge. He also points out the ease with which a new organization can set rates for jobs that involve the manufacture of a new product. He also proposes his plan, or a modification of it, as a substitute for the "prevailing wage rate" which is the concept most frequently found among industrial employers. By means of such a plan he hopes that each establishment in a given industry can set its own house in order; only after this can be expected uniformity of conditions within the industry. "Furthermore some industries are so large and varied in the occupations which they include in their own organization that their experience in equalizing the wage scales may serve to open the way to a determination of the relative worth of work between trades that are widely separated."

Perhaps the most ambitious outcome proposed for the plan is in settling industrial disputes. For according to Mr. Lott's plan, the weight given to the various factors in a job may be determined by workers as well as by managers, and to grant the workers a voice in determining wages will remove their grounds for dispute.

Thoughtful employers and workmen must recognize the need for some systematic plan that will relieve the chaos of present wage payments. All must agree with Mr. Lott that equity requires the analysis of occupational activities as the basic procedure. A critical reader, however, might question the validity of some of his methods, particularly the almost exclusive use of opinions in weighting the various factors affecting a job. Surely objective data can be found with which to make some of these weightings. Instead of relying on conflicting opinions as to the "time usually required to become skilled," why not observe a number of apprentices and measure the time actually spent in learning the skills involved? Instead of asking a foreman to guess concerning the punctuality and absenteeism of an individual, why not obtain objective records from the personnel department?

Another limitation of the plan which will surely impress the average employer is the small part allowed for the factor of competition in wages. Under urgent need of certain classes of workers an employer may be obliged to raise the wages regardless of the relative "intrinsic" worth of their jobs. It is true that Mr. Lott's plan gives to the "prevailing rate of pay in a locality" a weight of five points out of one hundred; nevertheless, that would seem small under certain circumstances.

Regardless of the limitations, the general thesis with which Mr. Lott opens his book is surely sound; namely, we must by analysis determine the factors involved in any given piece of work; compute the extent to which each of these factors enters, and express these differences in quantitative terms which can be translated into dollars and cents. While scientific techniques for the accomplishment of these ends are still imperfect, we may hope that as objective methods of analyzing human activities develop and as employers become enlightened we shall reach levels of increasing fairness.

An appendix of twenty pages contains sample Job Specifications for the operations of common laborer, bench lathe operator, engine lathe operator and toolmaker.

In a future printing, an error in the chart on page 114 should be corrected: "Organization" should read "Occupation."

HARRY D. KITSON[1]

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The Economic Basis of Fair Wages. By Jacob D. Cox, Jr., The Ronald Press Company, New York, 1926, pages v, 139.

Upon picking up this comely little volume with its dozen statistical charts one is almost seduced into the hope that a discovery has been made, that at last someone knows what fair wages are and how to arrive at them. But the disillusionment comes soon.

With confident reference to classical economists the author sets out to "lay a foundation in economic theory," his thesis being that production costs tend to rise proportionately to the price level. In considering wages and prices, the long run interests him most, and the "world's standard of living." The general wage level is of little importance, for wages are residual. The volume of goods produced is the important thing—the larger the volume the more goods will be exchanged for a dollar, thus a higher real wage and standard of living. "Wage levels and living standards are always high or low together, as both are results of the same cause. This accounts for the common delusion that high wages are the cause of good living conditions. They are not, of course, but merely concurrent results of the same cause, namely, high individual production." He urges that prices and wages be allowed to take their "natural course" which is the only "fair and just" way. But with all this, the fundamental problem of fair wages, to him, is ethical, a sense of "what is right or wrong."

Considering the merits of the collective bargain, Cox observes that "only a limited number of men can be found whose necessities or disabilities compel them to accept less than the fair market rate of wages." He explains that large-scale production has broadened the market and eliminated inequalities; and he finds it "indeed strange" that the belief has become widespread that collective organization is necessary to prevent modern producers from depressing the standard of living of the workers. The need of submitting such a theory "to the test of the touchstone of facts" he believes has never been thought of. In truth, the collective bargain has developed "privileged groups" among the workers whose unduly high wages are shifted directly upon the consumer. Employers are helpless to do otherwise, for their profits "are ordinarily kept within narrow limits by competition." In proof of this, the author states that "while labor's return has trebled in a century, the rate of return on industrial capital has steadily fallen in this country."

Perhaps this is the most specious passage of all. The president of the Cleveland Twist Drill Company makes himself sound like a Rip Van Winkle just returned. In his zeal he overlooks the phenomena of fortuitous profits, stock dividends, and stock splitting. And any elementary student of the labor problem could tell him that the worker's real income was far less dependent upon his wages a century ago than now. Had he shown that real wages have only caught up with their level of the nineties he would have been on firm footing.

It should be said that there is a "Second Man" in Mr. Cox who evinces acquaintance with recent experience in increasing production. He even suggests that the standard of living can be increased forty per cent by scientific management including personal incentives to the workers.

The book ends on the well-worn key of American individual liberty and the "policy of equal opportunities and fair play." It can do little but harm in the increasingly delicate business of fixing the wages of labor.

Elizabeth F. Baker[2]

Labor Economics. By Solomon Blum, Henry Holt and Company, New York, 1925, pages ix, 579.

This book represents the life work of a professor of economics in the University of California. It is philosophic, thorough in its citation of court decisions, and rich in facts and illustrations introduced on many phases of labor economics.

Professor Blum regards the labor movement not as a "problem" which might be "solved," but as one of the permanent processes of economic life. Private enterprise is mechanistic. Its valuations are simply those of the market. The labor movement is the most prominent of those opposing forces which attempt to introduce human valuations, to restrain, and, from the social point of view, standardize. The book first traces the origin of this latter point of view in the philosophic questionings of the twelfth and thirteenth centuries, and the industrial events of the English Industrial Revolution. The fuller fruits are discussed in chapters on labor legislation, social insurance, attempts to mitigate unemployment, and many chapters on trade unions, their form, legal status, tendencies, tactics, conflicts, etc. Concluding chapters deal with socialism and other forms of collectivism.

The chapter of most direct interest to members of the Taylor Society is that on "Unionism and Conflict of Interests." This considers various attempts to substitute fraternity of interest for conflict of interest between capital and labor—including Welfare Work, Personnel Administration, Job Analysis, Profit Sharing, Labor Copartnership, Scientific Management, and Industrial Democracy. In the section on Scientific Management the author offers the following objections to the idea that under universal scientific management there would be no conflict of interest between employer and employe:

First, he says that it is absurd to assume, as did the original proponents of scientific management, that the efficiency engineer can determine the maximum wage that is "good for a man."

Turning to a topic of greater contemporary interest, he says that the efficiency expert is quite wrong in assuming that "it is to the interest of business at all times to maintain itself at maximum productivity. As a matter of fact, it is well known that business cannot so exist year in and year out; that restriction of output is as necessary for the maintenance of profits as is lowered cost of production. If efficiency could be universalized, it might be beneficial in the same way that machinery has been beneficial in economic life. But it would do no more than machinery has done toward stabilizing business enterprise or cementing the worker to his work . . . . Large output may possibly mean small profits or no profits at all. Now wages are a derivative not of output but of profits . . . . The assumption that unity of interest between worker and employer can be attained by a sliding scale of wages depending upon the efficiency of the worker and of the industry is founded upon a total misconception of the basis of our social adjustments.

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"The engineer, in the next place, pays no attention to that 'vested interest' which the skilled workman has in his craft. This disregard of a very real asset has been, in the machine process, a potent force in maintaining and increasing that antagonism of interest which the efficiency expert hopes to obliterate, yet he has blindly followed it.

"Lastly, the efficiency man, by the very premises upon which he works, does away with the probability of bargaining with the trade union . . . unless efficiency plans are so constituted as to fulfill the wishes of the employe better than the trade union does, any system which makes it very difficult for trade unions to function will increase antagonism to the employer,"

To those in close touch with contemporary scientific management it will be apparent that Professor Blum has overlooked efforts to cope with the various problems mentioned. His book remains, however, one of the most important general works dealing with his subject.

Horace B. Drury[3]

Banking Cycles. By Lincoln W. Hall, Ph. D., University of Pennsylvania Press, Philadelphia, 1927, pages 172.

This is a highly technical book in which new methods of measuring the ebb and flow of business are developed by the use of higher mathematics in connection with banking functions, such as the rise and fall of deposits, loans, discounts, investments and other resources and liabilities, through seasonal and cyclical variations.

An analysis of these enables the author to develop new methods for definite forecasting of business changes to supplement and test what he calls the conventional indefinite forecasting. Definite forecasting attempts to forecast the original data of a series a year or more in advance of its occurrence. It does this by separating unstable elements and using those elements which have shown some degree of stability in previous data. The author believes that those methods which give the most definite forecasting are the most useful and probably the most accurate, and are a decided improvement over chain indices.

Dr. N. I. Stone[4]

Foremanship Training. By Hugo Diemer, McGraw-Hill Book Company, New York, 1927, pages viii, 230.

Foremanship and Supervision. By Frank Cushman, John Wiley & Sons, New York, 1927, pages xvii, 238.

Leadership. By William Colby Rucker, New York, The Macmillan Company, New York, 1926, pages xiv, 171.

It is highly gratifying to see the literature specifically addressed to the foremanship problem increasing so rapidly. It indicates the recognition of a felt need on the part of managers and teachers.

Mr. Diemer's book differs from the earlier volume by G. L. Gardiner, entitled "Practical Foremanship," in that it does not aim to be a textbook for foremen so much as a brief to executives on the necessity and importance of carrying forward a foreman training program. As such, it successfully accomplishes its purpose and calls attention effectively to what has been done in this field and what can be done. The content is eminently practical. The discussion of conference methods and the activities of group leaders will be found especially helpful. The only omission to which attention might possibly be called is of any discussion of the psychology of pedagogy which would help the group leader in utilizing what psychology has to say about the nature of the learning process and the best methods of teaching.

Mr. Cushman's book is designed for a different purpose. It is addressed specifically to teachers and leaders of foremen's classes. As such, it has a stimulating and unusual discussion of a number of topics which have not thus far been brought out in the literature for foremen. The mere naming of the chapter heads will give a good indication of the concrete and helpful character of the material. They include such subjects as: Types of Educational Procedure, The Principal Types of Conference Objectives, The Job of a Conference Leader, Conference Devices and Their Use, The Training of Minor Executives, The General Problem of Supervision of Men in Industry, Conference Material, Conference Topics and Objectives for Vocational Instructors and Supervisors. The industrial executive who finds himself charged with the responsibility of supervising or actually directing the carrying on of training procedures for foremen or other minor executives will find this book a most useful record of methods.

Dr. Rucker's manual on leadership was designed for the uses of the public health service. While it is undoubtedly a valuable step in the right direction and should aid in calling to the attention of public health officials many of the problems of personal contact with which they should be equipped to cope, it does not tell how to put the author's excellent advice into practice. The result is an almost sermonizing quality, with a practical ignoring of matters of educational method. The phrases "should be"

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